

WHAT IS CLAIMED IS:

1. An irradiating direction control apparatus of a headlamp for a vehicle which controls an irradiating direction 5 of the headlamp for the vehicle depending on a change in an posture of the vehicle, comprising:

vehicle posture detecting means for detecting the change in the posture of the vehicle;

irradiation control means for calculating a pitch angle 10 indicative of a vertical inclined posture in a forward direction of the vehicle based on information detected by the vehicle posture detecting means and computing a control amount for correcting an optical axis of irradiation related to the headlamp for the vehicle, and setting a ground angle of the optical 15 axis of the irradiation in a deceleration of the vehicle to be smaller than a ground reference angle of the optical axis of the irradiation during stop or constant speed running of the vehicle, thereby carrying out a correcting calculation for maintaining a forward visible distance of the vehicle to 20 be constant; and

driving means for changing a direction of the optical axis of the irradiation of the headlamp for the vehicle upon receipt of a control command sent from the irradiation control means.

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2. The irradiating direction control apparatus of a headlamp for a vehicle according to claim 1, wherein when a ground reference angle of the optical axis of the irradiation is represented as " $\alpha$ ", a ground clearance of the headlamp for 30 the vehicle is represented as "Hhl" and a forward visible distance of the vehicle is represented as "L",

the irradiation control means subtracts an angle obtained as an inverse tangent of a ratio "Hhl/L" from the ground reference angle " $\alpha$ " and sets the value thus obtained as a correction 35 value to compute a control amount for correcting the optical axis of the irradiation based on an amount obtained by correcting

the value of the pitch angle.

3. The irradiating direction control apparatus of a headlamp for a vehicle according to claim 1, further comprising  
5 running state detecting means for detecting a running state of the vehicle,

wherein when an acceleration in a deceleration of the vehicle is detected by the running state detecting means, the irradiation control means adds a correction amount which is  
10 proportional to an absolute value of the acceleration to a control amount determined by the pitch angle.

4. An irradiating direction control apparatus of a headlamp for a vehicle which controls an irradiating direction  
15 of the headlamp for the vehicle depending on a change in an posture of the vehicle, comprising:

vehicle posture detecting means for detecting the change in the posture of the vehicle;

irradiation control means for calculating a pitch angle  
20 indicative of a vertical inclined posture in a direction of advance of the vehicle based on information detected by the vehicle posture detecting means and computing a control amount for correcting an optical axis of irradiation related to the headlamp for the vehicle, and setting a ground angle of the  
25 optical axis of the irradiation in an acceleration of the vehicle to be greater than a ground reference angle of the optical axis of the irradiation during stop or constant speed running of the vehicle, thereby carrying out a correcting calculation for maintaining a forward visible distance of the vehicle to  
30 be constant; and

driving means for changing a direction of the optical axis of the irradiation of the headlamp for the vehicle upon receipt of a control command sent from the irradiation control means.

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5. The irradiating direction control apparatus of a

headlamp for a vehicle according to claim 4, further comprising running state detecting means for detecting a running state of the vehicle,

5 wherein when an acceleration in an acceleration of the vehicle is detected by the running state detecting means, the irradiation control means subtracts a correction amount which is proportional to an absolute value of the acceleration from a control amount determined by the pitch angle.